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## ICEBERG MOVEMENT IN THE NORTH ATLANTIC OCEAN

by T.S. Murty, P.A. Bolduc  
and K. Adamowski

The movement of icebergs in the North Atlantic Ocean is important not only for the navigation of ships but also for coastal engineering and the study of the ice drift off the coast of Canada. The authors studied the movement of icebergs in the North Atlantic Ocean from 1950 to 1955. The data were obtained from the reports of the Canadian Coast Guard and the United States Coast Guard. The authors found that the movement of icebergs in the North Atlantic Ocean is generally from south to north and from east to west. The authors also found that the movement of icebergs in the North Atlantic Ocean is affected by the wind and the current. The authors conclude that the movement of icebergs in the North Atlantic Ocean is a complex phenomenon and that further study is needed to understand it better.

The following paragraphs are devoted to the study of the movement of icebergs in the North Atlantic Ocean. The authors first study the movement of icebergs in the North Atlantic Ocean from 1950 to 1955. They then study the movement of icebergs in the North Atlantic Ocean from 1956 to 1960. Finally, they study the movement of icebergs in the North Atlantic Ocean from 1961 to 1965. The authors find that the movement of icebergs in the North Atlantic Ocean is generally from south to north and from east to west. They also find that the movement of icebergs in the North Atlantic Ocean is affected by the wind and the current. The authors conclude that the movement of icebergs in the North Atlantic Ocean is a complex phenomenon and that further study is needed to understand it better.



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## ABSTRACT

The prediction of the movement of icebergs in the Northwest Atlantic Ocean is important not only for trans-Atlantic navigation but also for coastal engineering activities such as oil-drilling on the east coast of Canada. The iceberg season is mainly from March to July and on the average about 500 bergs cross southward of  $48^{\circ}\text{N}$  (which is the northernmost latitude for trans-Atlantic shipping lanes). However, the number of bergs may vary from one season to another and it has been observed that the variation could be from zero to as high as about 2,000. The following parameters appear to be relevant for the prediction of the severity (i.e. number of bergs per season south of  $48^{\circ}\text{N}$ ): the supply of icebergs from glaciers on the west coast of Greenland, their transport into the northwest Atlantic Ocean by the Labrador current and their mortality rate during their southward drift.

The following parameters are used as indicators: the summer air temperature at Upernivik (Greenland)→for iceberg supply; the sea level atmospheric pressure difference between Belle Isle (Newfoundland) and Ivigtut (Greenland)→for strength of the northwesterly winds and of the Labrador current; the air temperature at Torbay (Newfoundland)→for iceberg mortality rate; the sea surface temperature at Keywest (Florida)→for strength of the Gulf Stream which bars the southward drift of bergs. Various statistical models have been used here to predict the deterministic and the residual components of the iceberg severity.

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